What is claimed is:

1.   A telecommunications system architecture comprising:

at least one access network;

a mobile host located in said access network;

a backbone network, including at least one application server;

an information gateway located in said backbone network; and

a throughput estimator residing on said information gateway;

wherein said mobile host communicates with said application server through said information gateway and said throughput estimator provides information useful in optimizing download rate to said mobile host.

2.   A telecommunications system as set forth in claim 1, wherein said throughput estimator is selected from the group consisting of an ICMP-based throughput estimator, a HTTP-based throughput estimator, a TCP trace throughput estimator, and a SNMP-based throughput estimator.

3.   A telecommunications system as set forth in claim 1, wherein said throughput estimator is a passive throughput estimator.

4.   A telecommunications system as set forth in claim 1, wherein said throughput estimator is an active throughput estimator.

5.   A method of optimizing download rate to a mobile host from an application server in a telecommunications network, said method comprising:

providing an information gateway between said mobile host and said application server capable of adjusting said download rate;

measuring a throughput rate using the following equation

$R(\tau)= M /\Delta t$, wherein $R(\tau)$ is the measured throughput rate, Δt is the measurement time interval, τ be the current measurement time and M is the number of messages that arrive during the time interval;

calculating an estimated throughput rate for an application flow using the following equation

$$\hat{R}(\tau) = \alpha(\tau) R(\tau) + (1 - \alpha(\tau)) E[R_{\tau-\Delta t}]$$, wherein the estimated value $E[R_{t-\Delta t}]$ is a weighted average of the current measured value and the average of the last K-1 measured values, and weight value $\alpha(\tau)$ is the average fractional difference between consecutive measurements points;

calculating the difference between said measured throughput rate and said estimated throughput rate and if said difference is less than a predetermined sensitivity parameter, then increasing said download rate through said information gateway by a predetermined incremental amount.

6. A method according to claim 5, wherein said predetermined incremental amount is less than said predetermined sensitivity parameter.

7. A method according to claim 5, wherein said step of calculating an estimated throughput rate is carried out at said information gateway.

8. A method according to claim 5, wherein said step of calculating an estimated throughput rate is carried out at said mobile host.

9. A method according to claim 5, wherein said step of calculating the difference is carried out at said information gateway.